

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Priority*

2. The disclosure of the invention in the parent application (***Provisional application No. 60/469,005***) provides sufficient support for the features in the later-filed application (***Park-US Pub. No. 2005/0025003***), as are now relied upon as prior art by the Examiner and discussed in the detailed action, below.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 16, 17, 19, 20 and 22-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Park-US Pub. No. 2005/0025003 (as supported by Provisional application No. 60/469,005)** in view of Hwang et al. - US 2008/0101181 (as supported by Provisional application No. 60/472,114).

### **Regarding claim 16,**

Park teaches a write-once-type recording medium **(page 1)** comprising:

a data area to record therein the record data **(page 4 discloses recording in a replacement cluster instead of a defective cluster. Said "defective cluster" is interpreted as evidence of a data area in the disc of Park);**

a control information recording area, which includes a definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area **(paragraph 1 of page 1, discloses updating a "DMS");**

and a shared area **("OSA1", in page 4)** to record therein evacuation data which is record data to be recorded at a position of a defect in said data area **(page 4 discloses that a defective clusters is recorded as a replacement cluster)** and to temporarily record therein the defect management information of said data area **(page 4 discloses recording the address of a defective cluster in a user control block of the replacement cluster)**, the evacuation data being recorded with one predetermined point which exists in said shared area as a start point, the defect management information being recorded with another predetermined point which exists at a different point from the one point as a start point, in said shared area **(an "Access block" is distinguished from a replacement cluster of the Park disclosure. Since the "Access block" includes management information such as PSNs, each "Access block" (see "address unit" or "user control block" thereof) is interpreted as having a starting point which is different from the starting point of the**

**replacement data of the replacement cluster**), wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in the data area ( **see “PSN of defective cluster”**) and (ii) an evacuation destination address which is an address of a recording position of the evacuation data (**see “PSN of replacement cluster”**).

Park fails to expressly teach that the disc structure is such that the shared area is disposed between said control information recording area and said data area.

HWANG teaches that a write-one recording medium may be structured such that the shared area (**“SPARE AREA 2” in figures 4 and 6**) is disposed between said control information recording area (**“DMA3” or “DMA4” in figures 4 and 6**) and said data area (**“USER DATA AREA” in figures 4 and 6**).

It would have been obvious for one of ordinary skill in the art at the time of the invention to provide a plurality of definite defect management areas, wherein at least one DMA is located at each opposing end of the disc (see, HWANG). Therefore, when recently updated defect management information is recorded in the multiple DMA locations of the disc, the DMA data is better prevented from becoming unusable due to disc defects.

**Regarding claim 17,**

Park teaches that the evacuation data is continuously recorded with the one point as the start point and the defect management information is continuously recorded with the another point as the start point, in the shared area (**page 4 teaches that the**

**evacuation data is recorded in a “replacement cluster”, while the defect management information are recorded in “Access blocks” of respective clusters. The repeated recordation of replacement clusters and “Access blocks” when a defective cluster is determined, is interpreted as corresponding to “continuously recorded” as claimed broadly claimed).**

**Regarding claim 19,**

Park teaches that the evacuation data and defect management information are recorded, repeatedly, a plurality of times, in said shared area **(page 4 discloses that each replacement cluster includes an “access block”, which is interpreted as teachings that evacuation data and defect management information are repeatedly recorded for each respective defect).**

**Regarding claims 20 and 23,**

Park teaches a recording/reproducing apparatus for recording/reproducing record data onto/from a write-once-type recording medium **(page 1)** comprising:

(i) a data area to record therein the record data **(page 4 discloses recording in a replacement cluster instead of a defective cluster. Said "defective cluster" is interpreted as evidence of a data area in the disc of Park);**

(ii) a control information recording area, which includes a definite defect management area to record therein defect management information of said data area,

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to record therein information for controlling at least one of operations of recording and reading in said data area (**paragraph 1 of page 1, discloses updating a “DMS”**);

and (iii) a shared area (**“OSA1”, in page 4**) to record therein evacuation data which is record data to be recorded at a position of a defect in said data area (**page 4 discloses that a defective clusters is recorded as a replacement cluster**) and to temporarily record therein the defect management information of said data area (**page 4 discloses recording the address of a defective cluster in a user control block of the replacement cluster**), wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in the data area (**see “PSN of defective cluster”**) and (ii) an evacuation destination address which is an address of a recording position of the evacuation data (**see “PSN of replacement cluster”**).

Park fails to expressly teach that the disc structure is such that the shared area is disposed between said control information recording area and said data area. Park also fails to expressly discloses a recording/reproducing part of a disc drive apparatus, as claimed.

HWANG teaches that a write-one recording medium may be structured such that the shared area (**“SPARE AREA 2” in figures 4 and 6**) is disposed between said control information recording area (**“DMA3” or “DMA4” in figures 4 and 6**) and said data area (**“USER DATA AREA” in figures 4 and 6**);

and a recording/reproducing apparatus comprising:

a first recording device for recording the record data into said data area **(parts and elements operating to perform said function are illustrated in figure 9);**

and a second recording device for recording the evacuation data and the defect management information into said shared area **(parts and elements operating to perform said function are illustrated in figure 9)**, said second recording device recording the evacuation data being recorded with one predetermined point which exists in said shared area as a start point, the defect management information being recorded with another predetermined point which exists at a different point from the one point as a start point, in said shared area **(an “Access block” is distinguished from a replacement cluster of the Park disclosure. Since the “Access block” includes management information such as PSNs, each “Access block” (see “address unit” or “user control block” thereof) is interpreted as having a starting point which is different from the starting point of the replacement data of the replacement cluster),**

a reading device for reading the defect management information recorded in said shared area **(parts and elements operating to perform said function are illustrated in figure 9);** and

a reproducing device for reproducing the record data recorded in said data area or the evacuation data recorded in said spare area, on the basis of the defect management information **(parts and elements operating to perform said function are illustrated in figure 9) .**

It would have been obvious for one of ordinary skill in the art at the time of the invention to provide a plurality of definite defect management areas, wherein at least one DMA is located at each opposing end of the disc (see, HWANG). Therefore, when recently updated defect management information is recorded in the multiple DMA locations of the disc, the DMA data is better prevented from becoming unusable due to disc defects.

**Regarding claims 22 and 24,**

Park teaches a recording/reproducing method of recording/reproducing record data onto/from a write-once-type recording medium **(page 1)** comprising:

(i) a data area to record therein the record data **(page 4 discloses recording in a replacement cluster instead of a defective cluster. Said "defective cluster" is interpreted as evidence of a data area in the disc of Park);**

(ii) a control information recording area, which includes a definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area **(paragraph 1 of page 1, discloses updating a "DMS");**

and (iii) a shared area **("OSA1", in page 4)** to record therein evacuation data which is record data to be recorded at a position of a defect in said data area **(page 4 discloses that a defective clusters is recorded as a replacement cluster)** and to temporarily record therein the defect management information of said data area **(page 4 discloses recording the address of a defective cluster in a user control block of**

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**the replacement cluster**), wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in the data area ( **see “PSN of defective cluster”**) and (ii) an evacuation destination address which is an address of a recording position of the evacuation data (**see “PSN of replacement cluster”**).

Park fails to expressly teach that the disc structure is such that the shared area is disposed between said control information recording area and said data area. Park also fails to expressly disclose a recording/reproducing method, as claimed.

HWANG teaches that a write-one recording medium may be structured such that the shared area (**“SPARE AREA 2” in figures 4 and 6**) is disposed between said control information recording area (**“DMA3” or “DMA4” in figures 4 and 6**) and said data area (**“USER DATA AREA” in figures 4 and 6**);

a recording/reproducing method comprising:

a first recording/reading process of recording/reading the record data into/from said data area (**parts and elements operating to perform said function are illustrated in figure 9**);

a reproducing process and a reproducing process of reproducing the record data recorded in said data area or the evacuation data recorded in said spare area, on the basis of the read defect management information (**the elements of figure 9 operate to execute the process**);



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a second recording process of recording the evacuation data and the defect management information into said shared area **(parts and elements operating to perform said function are illustrated in figure 9)**, said second recording process recording the evacuation data with one predetermined point which exists in said shared area as a start point, said second recording process recording the defect management information with another predetermined point which exists at a different point from the one point as a start point, in said shared area **(an “Access block” is distinguished from a replacement cluster of the Park disclosure. Since the “Access block” includes management information such as PSNs, each “Access block” (see “address unit” or “user control block” thereof) is interpreted as having a starting point which is different from the starting point of the replacement data of the replacement cluster).**

It would have been obvious for one of ordinary skill in the art at the time of the invention to provide a plurality of definite defect management areas, wherein at least one DMA is located at each opposing end of the disc (see, HWANG). Therefore, when recently updated defect management information is recorded in the multiple DMA locations of the disc, the DMA data is better prevented from becoming unusable due to disc defects.

**Regarding claims 25 and 26,**

The combined disclosures of Park and Hwang teach a computer program product for recording/reproduction control in a computer-readable medium for tangibly

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embodying a program of instructions executable by a computer provided for a recording/reproduction apparatus, said program making the computer function as at least a first portion of a recording/reading device and a second recording/reading device **(see parts and elements of figure 9 of Hwang)**, said apparatus comprising:

a data area to record therein the record data **(page 4 discloses recording in a replacement cluster instead of a defective cluster. Said "defective cluster" is interpreted as evidence of a data area in the disc of Park)**;

a control information recording area, which includes a definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area **(paragraph 1 of page 1, discloses updating a "DMS")**;

and a shared area **("OSA1", in page 4)** to record therein evacuation data which is record data to be recorded at a position of a defect in said data area **(page 4 discloses that a defective clusters is recorded as a replacement cluster)** and to temporarily record therein the defect management information of said data area **(page 4 discloses recording the address of a defective cluster in a user control block of the replacement cluster)**, the evacuation data being recorded with one predetermined point which exists in said shared area as a start point, the defect management information being recorded with another predetermined point which exists at a different point from the one point as a start point, in said shared area **(an "Access block" is distinguished from a replacement cluster of the Park disclosure. Since the**

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**“Access block” includes management information such as PSNs, each “Access block” (see “address unit” or “user control block” thereof) is interpreted as having a starting point which is different from the starting point of the replacement data of the replacement cluster),** wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in the data area ( **see “PSN of defective cluster”**) and (ii) an evacuation destination address which is an address of a recording position of the evacuation data (**see “PSN of replacement cluster”**).

Park fails to expressly teach that the disc structure is such that the shared area is disposed between said control information recording area and said data area. Park also fails to expressly disclose a recording/reproducing apparatus, as claimed.

HWANG teaches that a write-one recording medium may be structured such that the shared area (**“SPARE AREA 2” in figures 4 and 6**) is disposed between said control information recording area (**“DMA3” or “DMA4” in figures 4 and 6**) and said data area (**“USER DATA AREA” in figures 4 and 6**);

and a recording/reproducing apparatus comprising:

a first recording device for recording the record data into said data area (**parts and elements operating to perform said function are illustrated in figure 9**);

and a second recording device for recording the evacuation data and the defect management information into said shared area (**parts and elements operating to perform said function are illustrated in figure 9**), said second recording device

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recording the evacuation data being recorded with one predetermined point which exists in said shared area as a start point, the defect management information being recorded with another predetermined point which exists at a different point from the one point as a start point, in said shared area **(an “Access block” is distinguished from a replacement cluster of the Park disclosure. Since the “Access block” includes management information such as PSNs, each “Access block” (see “address unit” or “user control block” thereof) is interpreted as having a starting point which is different from the starting point of the replacement data of the replacement cluster),**

a reading device for reading the defect management information recorded in said shared area **(parts and elements operating to perform said function are illustrated in figure 9); and**

a reproducing device for reproducing the record data recorded in said data area or the evacuation data recorded in said spare area, on the basis of the defect management information **(parts and elements operating to perform said function are illustrated in figure 9) .**

It would have been obvious for one of ordinary skill in the art at the time of the invention to provide a plurality of definite defect management areas, wherein at least one DMA is located at each opposing end of the disc (see, HWANG). Therefore, when recently updated defect management information is recorded in the multiple DMA

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locations of the disc, the DMA data is better prevented from becoming unusable due to disc defects.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims rejected in the Official Action mailed on 8/18/2009, have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIONNE H. PENDLETON whose telephone number is (571)272-7497. The examiner can normally be reached on 10:30-7:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Dionne H Pendleton/  
Examiner, Art Unit 2627

/Wayne Young/  
Supervisory Patent Examiner, Art Unit 2627